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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/593,770	09/22/2006	Masahiro Tojo	0216-0525PUS1	9089
2292 7590 07/21/2009 BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747				
EXAMINER				
COUGHLIN, MATTHEW P				
ART UNIT		PAPER NUMBER		
4131				
NOTIFICATION DATE		DELIVERY MODE		
07/21/2009		ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

# Office Action Summary

**Application No.**

10/593,770

**Applicant(s)**

TOJO ET AL.

**Examiner**

Matthew P. Coughlin

**Art Unit**

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 22 September 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SF/US)  
Paper No(s)/Mail Date 12/22/2006
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

Claims 1-7 are pending in the application.

***Priority***

This application is a 35 U.S.C. 371 National Stage Filing of International Application No. PCT/JP05/11138, filed 17 June 2005, which claims priority under 35 U.S.C. 119(a-d) to Japanese Application No. 2004-179800, filed 17 June 2004.

***Information Disclosure Statement***

The Examiner has considered the Information Disclosure Statement filed on 22 December 2006.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1-7 recite the definition of an aromatic carbonate; however, there is no chemical formula for this material. The claims are therefore indefinite with respect to what the method leads to and what the product entails. It is suggested that Applicant amend the claims to include a chemical formula or specific name to provide the identity of the aromatic carbonate(s) applicant intends as part of the invention .

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With further respect to claim 7, the terms "aromatic polycarbonate" and "aromatic dihydroxy compound" are indefinite. It is suggested that Applicant amend the claims to include chemical formulae or specific name to provide the identity of these materials applicant intends as part of the invention .

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 6 is rejected under 35 U.S.C. 102(b) as being anticipated by Gomberg et al. J. Am. Chem. Soc. 1925, 47, 198-211.

Gomberg et al. teach the preparation of diphenyl carbonate, which is an aromatic carbonate, on pages 201-202. There is presently nothing on the current record to demonstrate that the aromatic carbonate instantly claimed has any properties that differ from the aromatic carbonate taught by Gomberg et al.

Claim 7 is rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent Application Publication No. US 2003/0166826 by Miyamoto et al, U.S. Patent Application Publication No. US 2003/0088051 by Shimoda et al., U.S. Patent Application Publication No. US 2003/0050427 by Brunelle et al., and U.S. Patent Application Publication No. US 2003/0027941 by Sawaki et al., and the commercially available product Makrolon®, each taken alone.

Each reference teaches aromatic polycarbonates that, based on the current record, do not have any properties distinct from the aromatic

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polycarbonate instantly claimed. NOTE: The prior art literature is replete with examples of aromatic polycarbonates. In order to overcome this rejection, Applicant would need to successfully demonstrate that the aromatic polycarbonate instantly produced possesses properties beyond those reported in the literature as well as aromatic polycarbonates that would have been commercially available more than one year prior to filing in this country such as Makrolon®, which has been produced and sold by Bayer for over forty years.

#### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,210,268 by Fukuoka et al.

#### **Determining the scope and contents of the prior art. (See MPEP § 2141.01)**

Fukuoka et al. teach a process for continuously producing an aromatic carbonate as summarized in the abstract.

#### **Ascertainment of the differences between the prior art and the claims. (See MPEP § 2141.02)**

The three differences between the prior art and the instant claims are that:

(1) the prior art does not teach the identity of the impurity instantly noted as an aromatic carbonate ether,

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(2) the prior art does not teach a procedure for a distillation to remove said impurity, and

(3) the prior art does not teach a preparation for the aromatic polycarbonate instantly claimed (claim 7).

*Finding of prima facie obviousness --- rationale and motivation (See MPEP § 2141.02)*

With respect to the difference that the prior art does not teach the identity of the impurity instantly noted as an aromatic carbonate ether, the fact that Applicant has identified an impurity present does not render the process novel or unobvious. This same impurity would have been present in the process reported by Fukuoka et al. given the similar procedure used. Therefore, the presence of the impurity instantly noted as an aromatic carbonate ether is implicit in the procedure taught by Fukuoka et al.

With respect to the difference that the prior art does not teach a procedure for a distillation to remove said impurity, Fukuoka et al. teach (column 24) that the high boiling point reaction mixture may contain by-products and that these by-products could be removed by subjecting the mixture to the "conventional method for separation and purification, such as distillation, crystallization and the like, to thereby isolate the desired aromatic carbonate." Therefore a person having ordinary skill in the art at the time the invention was made would have been motivated to distill the product obtained from the procedure taught by Fukuoka et al. in order to obtain a high-purity aromatic carbonate.

With respect to the difference that the prior art does not teach a preparation for the aromatic polycarbonate instantly claimed, Fukuoka et al. teach that "an aromatic carbonate is useful as a raw material for the production of an aromatic polycarbonate." See column 1, background art.

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Therefore, a person having ordinary skill in the art at the time the invention was made would have been motivated to synthesize an aromatic polycarbonate via the procedure taught by Fukuoka et al. since the procedure avoids the use of the classic reagent phosgene, which is toxic.

Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,262,210 by Tojo et al. in view of U.S. Patent No. 5,210,268 by Fukuoka et al.

Determining the scope and contents of the prior art. (See MPEP § 2141.01)

Tojo et al. teach a process for producing aromatic carbonates using the same starting materials and reagents as instantly claimed and a process for the production of aromatic polycarbonates.

Ascertainment of the differences between the prior art and the claims. (See MPEP § 2141.02)

The two differences between the prior art and the claims are that:

(1) the prior art does not teach the identity of the impurity instantly noted as an aromatic carbonate ether, and

(2) the prior teaches a final step for obtaining a high purity aromatic carbonate involving oxidizing by-products instead of distilling the aromatic carbonate as instantly claimed.

Finding of prima facie obviousness --- rationale and motivation (See MPEP § 2141.02)

With respect to the difference that the prior art does not teach the identity of the impurity instantly noted as an aromatic carbonate ether, the fact that Applicant has identified an impurity present does not render the process novel or unobvious. This same impurity would have been present in the process reported by Fukuoka et al. given the similar procedure used.

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Therefore, the presence of the impurity instantly noted as an aromatic carbonate ether is implicit in the procedure taught by Fukuoka et al.

With respect to the difference that the prior teaches a final step for obtaining a high purity aromatic carbonate involving oxidizing by-products instead of distilling the aromatic carbonate as instantly claimed, Fukuoka et al. teach (column 24) that the high boiling point reaction mixture may contain by-products and that these by-products could be removed by subjecting the mixture to the "conventional method for separation and purification, such as distillation, crystallization and the like, to thereby isolate the desired aromatic carbonate." Therefore a person having ordinary skill in the art at the time the invention was made would have recognized the final purification method instantly claimed as an obvious variant over the method taught by Tojo et al. A person having ordinary skill in the art at the time the invention was made would have reasonably expected that in order to obtain the high purity aromatic carbonates taught by Tojo et al., a distillation could be used as the final purification step.

### **Double Patenting**

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this



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application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-5 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 1 of U.S. Patent No. 5,210,268. Although the conflicting claims are not identical, they are not patentably distinct from each other. See rationale for 103 rejection cited supra in the instant office action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew P. Coughlin whose telephone number is (571)270-1311. The examiner can normally be reached on Monday through Thursday from 7:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, JAMES O. WILSON can be reached on 571-272-0661. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Matthew P. Coughlin/  
Examiner, Art Unit 4131

/James O. Wilson/  
**Supervisory Patent Examiner, Art Unit 1624**